

Remarks/Arguments:

Preliminary Matters

The applicant and his representatives have reviewed the Final Office Action of November 16, 2004, and provide the following in response thereto. Preliminarily, it is noted that claims 1 – 12 and 26 - 38 are pending in the present case. The applicant notes with appreciation the indication that claims 2, 6, and 12 would be allowable if rewritten in independent form. The applicant respectfully submits, however, that claims 2, 6, and 12 are dependent upon allowable base claims, and therefore should also be allowed.

35 U.S.C. § 102

Claims 1, 3 - 5, 7 - 9, and 11 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,129,899 to Small et al. The applicant respectfully traverses the rejection of these claims and respectfully submits that these claims are patentable over Small for at least the reasons set forth below.

Independent claim 1 recites features that are neither disclosed nor suggested by Small, namely:

...an elongate arm extending proximally from said first socket element and having an elongate through slot therealong; said second socket element and said slot configured and dimensioned whereby portions of a screw head of a fixation screw seated in said second socket element *protrude through said second socket element passage and engage edges of said slot* for clamping said second socket element to said arm when said screw is fully secured in a vertebra. (emphasis added).

By way of example, as shown in the embodiment depicted in the applicant's Figs. 10 and 11, second socket element 12 and slot 20 are configured and dimensioned whereby bottom portions of the screw head 25 seated in the socket element 21 protrude through the second socket element passage 22 and engage edges 26 of slot 20 for clamping the second socket element 21 to arm 18 when screw 23 is fully secured into an underlying vertebra. Page 11, lines 3 - 6.

In contrast, Small neither discloses nor suggests portions of a screw head of a fixation screw seated in a second socket element *protruding through the second socket element passage and engaging edges of a slot of an elongate arm* for clamping the second socket element to the arm when the screw is fully secured in a vertebra. More specifically, and as illustrated in

Small's Fig. 1, plate 17 includes a longitudinally extending slot 20. See Small, Column 3, lines 51 - 54. The slot 20 includes an upper beveled edge 25 and a lower beveled edge 26. Column 3, lines 55 - 57. Regarding nut 31 of bone bolt 11, an opening 36 in washer 35 includes a hemispherical concave surface 42 that is similarly shaped to the hemispherical convex surface 32 of nut 31. Column 4, lines 1 - 3. As illustrated in Small's Fig. 1B, the hemispherical convex surface 32 of nut 31 nests in, and registers with, the hemispherical concave surface 42 of load transfer washer 35. In other words, *no portion of nut 31 engages edges of slot 20 of plate 17*. Regarding shank portion 12 of bone bolt 11, shank portion 12 *does not protrude through load transfer washer 35*.

An alternate embodiment of the apparatus of Small is shown in Figs. 4 and 4A. Column 4, lines 22 - 23. In Fig. 4A, bone screw 45 is shown, illustrating the upper end portion of the screw 45 including the shank 46 and head 48 portions in operating position with plate 53 and washer 52. Column 4, lines 42 - 45. The plate 53 provides a slot 54, and the washer 52 provides a hemispherical socket 55 communicating with and extending around opening 56. Column 4, lines 45 - 48. The hemispherical surface 51 of bone screw 45 nests in and registers with the hemispherical concave surface 55 of washer 52. Column 4, lines 48 - 51. In other words, *no portion of head 48 engages edges of slot 54 of plate 53*.

Thus, Small neither discloses nor suggests portions of a screw head of a fixation screw seated in a second socket element *protruding through the second socket element passage and engaging edges of a slot of an elongate arm* for clamping the second socket element to the arm, and therefore fails to disclose or suggest each and every element of the applicant's claimed invention.

The recited features of claim 1 provide advantages over Small. The present configuration provides a locking mechanism which *prevents further relative movement between elements 13 (first screw receiving socket element) and 21 (second screw receiving socket element) 21*. Page 12, lines 1 - 2.

Accordingly, for the foregoing reasons, the applicant respectfully submits that independent claim 1 is patentable over Small and should be allowed. Claims 3 and 4 are dependent upon claim 1. Thus, claims 3 and 4 should also be allowed at least as dependent upon an allowable base claim. Reconsideration of these claims is respectfully requested.

Independent claim 5, although not identical to claim 1, includes patentable features similar to claim 1. Specifically, claim 5 recites, among other things, that a passage for a second bowl and a slot of an arm are configured and dimensioned whereby portions of the head of a

fixation screw received in the second bowl *protrude through the passage for the second bowl to engage edges of the slot* and thereby clamp the second screw receiving element to the plate assembly when the fixation screw is fully secured to a vertebra. Accordingly, claim 5 is also patentable over Small for at least the reasons set forth above. Claims 7 - 9 and 11 are dependent upon claim 5. Thus, claims 7 - 9 and 11 should also be allowed at least as dependent upon an allowable base claim. Reconsideration of these claims is respectfully requested.

35 U.S.C. § 103

Claim 10 (dependent upon claim 5) stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Small in view of U.S. Publication No. US 2001/0037111 to Dixon et al. The applicant respectfully traverses the rejection of this claim and respectfully submits that this claim is patentable over the art of record for at least the reasons set forth below.

Dixon discloses a bone screw 47 attached to a plate 42 with a bone screw clamp portion 45 and 26, as shown in Fig. 3. Paragraph 46. The clamp comprises an upper portion 45, a lower portion 26, and a machine screw nut 46. Paragraph 46. The nut 46 clamps the upper portion 45, through the plate 42, to the lower portion 26 and against a collar 25 on the bone screw 47. Paragraph 46. Dixon neither discloses nor suggests portions of a screw head of a fixation screw seated in a second socket element *protruding through the second socket element passage and engaging edges of a slot of an elongate arm* for clamping the second socket element to the arm.

As noted above, Small fails to recite each and every feature of independent claim 5.

Thus, because claim 10 (dependent upon claim 5) includes limitations that are neither disclosed nor suggested by Small or Dixon, alone or in combination, *prima facie* obviousness cannot be established based on the cited references. Accordingly, the applicant respectfully submits that claim 10 should be allowed. Reconsideration of this claim is respectfully requested.

Allowable Subject Matter

Claim 2 is dependent upon claim 1, and claims 6 and 12 are dependent upon claim 5. Therefore, it is respectfully submitted that claims 2, 6, and 12 should also be allowed at least as dependent upon allowable base claims. Reconsideration of these claims is respectfully requested.

Conclusion

In view of the points of distinction set forth above, the applicant contends that the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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